

| Process Indicator | Baseline 2010 | Mid-term Project Evaluation January 2012 | Final Evaluation December 2012 |
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| P1a. 58 PHUs individually confirm receipt of a delivery kit and annually confirm it is in working order | Not yet delivered | Confirmed through visual inspection of delivery receipts and spot checks at 11% of PHUs during mid term evaluation trip (Photographic records) | Confirmed through spot checks at 14.5% of PHUs (9 out of 62 PHUs) during final evaluation (with photographic records). All staff reported equipment has been used and is in working order. |
| P1b. 6 PHUs with specialist BEmOC status confirm receipt of an infant resuscitation kit and annually confirm it is in working order | Not yet delivered | BEmOC status was never granted to these clinics, but the infant resuscitation kits were delivered to those PHUs acting as referral centres for the District Hospital (Photographic records) | In May 2012 100 Adult and 100 Infant Resuscitation kits were supplied and distributed to all PHUs, CHOs and the hospital. Confirmed through visual inspection of delivery receipts and spot checks at 14.5% of PHUs in December 2013 (photographic records). |
| P1c. 15 CHOs confirm receipt of a delivery set, a vacuum extraction kit and an adult resuscitation kit; and annually confirm they are in working order | Not yet delivered | Confirmed through visual inspection of delivery receipts and visual inspection (Photographic records) | Confirmed through spot checks at PHUs and via interviews with CHOs (photographic records) |
| P1d. Staff at Kambia District Hospital confirm receipt of 2 vacuum extraction kits, 1 ultrasound scanner, 1 infant resuscitation kit, 2 EmOC surgical (caesarean) sets and 1 normal delivery set; and annually confirm they are in working order | Not yet delivered | Confirmed through visual inspection of delivery receipts and spot checks during mid term evaluation trip (Photographic records) | Confirmed through interviews with District Medical Officer and UK HPS Volunteers at District Hospital. 1 EmOC surgical (caesarean) set could not be found. |
| P2a. 90% of all CHOs and MCHAs based in Kambia attend at least one training session | 92% of CHOs and CHOs in-training (n=23/25) attended October 2010 session; Awaiting MCHA attendance list | 18/18 (100%) CHOs received training in 2011 54/56 (96.43%) MCHAs received training in 2011 | 18/18 (100%) CHOs received training in 2012; 27/58 (46.5%) MCHAs received training in 2012. Over the 3 year project 100% CHOs and 98% of MCHAs have received training. |
| P2b. Proportion of CHOs and MCHAs with 100% daily attendance at each training session attended | 82.6% of CHOs attended full six day session in October 2010 | Unable to verify as daily attendance was not always collected | Unable to verify as daily attendance was not always collected |
| P2c. Proportion of staff who attended first year training and went on to attend training sessions in subsequent two years (includes 15 | N/A | This indicator is difficult to assess because the students do not have unique identifier numbers. There are numerous students with the same | As Mid-term evaluation reported, this indicator has been difficult to assess. |

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| CHOs, 57 MCHAs, 40 VNAs, 10 ultrasound staff, 8 theatre staff and 2 anaesthetic nurses) | | names, shortened nick names or duplicate entries. | |
| P3a. Proportion of CHOs and MCHAs who score 60% or above (pass mark) on post-training test | 95.6% (21/22) of CHOs who took post-training test in October 2010 scored 60% or above | Two trainings took place in 2011: MCHA and VNA in May, CHO, MCHA and VNA in November. The percentages below represent combined scores for both trainings: CHOs: 29/33 (87.8%) passed with 60% or above; MCHAs 57/65 (87.7%); VNAs 29/30 (96.7%) | A different format for the assessment was used in November 2012, which therefore doesn't provide consistent comparison with scores from previous years. |
| P3b. 20% increase in mean score between pre and post training test scores | P4c. Mean increase between pre-post training test scores was 19.32% for October 2010 | MAY 2011: Mean increase between pre-post training test scores was 22.6% for MCHAs. NOVEMBER 2011: Mean increase between pre-post training test scores was 16.7% for MCHAs, excluding 1 major outlier, 7 students who did not sit the post exam and 3 students who did not sit the pre exam; Mean increase between pre-post training test scores was 26.3% for CHOs excluding 1 major outlier and 6 students who did not sit the pre exam | A different format for the assessment was used in November 2012, which therefore doesn't provide consistent comparison with scores from previous years. |
| P4a. 75% of trained staff state they feel competent or very competent in each key area of training | October 2010: 75% of trained CHOs felt competent or very competent in 6/12 key areas (see appendix) | Not completed during 2011; will aim for this questionnaire to be completed for final evaluation after all training delivered | This indicator has been difficult to assess because not all trainees have been given questionnaires during the project. The results reported here relate to those trainees participating in courses in November 2012 only: 14/15 CHOs who completed questionnaire reported improved levels of competency as a result of IHLFS training (93.3%) in 2012 12/12 MCHAs who completed a questionnaire reported improved competencies (100%) in 2012 23/29 VNAs who completed questionnaires reported an improvement in their skills as a result of IHLFS training (79.3%) in 2012. |
| P5a. Increased rate of women admitted to hospital who receive an ultrasound (number of ultrasounds/number of women admitted to maternity ward) | Need to establish baseline | 250 ultrasounds were recorded throughout 2011. Although a fraction of women admitted to the maternity ward, this number represents a significant increase from 2010 when no ultrasounds were available. | The one hospital CHO trained to be in charge of operating the Ultrasound scanner left the hospital, so ultrasound scans stopped after July 2012. He also took the scan log book with him, so results are not available from July |

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| P5b. Increased rate of complications identified using ultrasound (number of ultrasound identified complications/number of ultrasounds) | Need to establish baseline | Unable to verify from records provided (ultrasound staff did not consistently record this information and handwriting difficult to interpret) | Information unavailable |
| P6a. Increased rate of complications identified by PHUs (number of complications/total number of PHU births and antenatal visits) | 19.70% (5,327 complications/27,036 PHU antenatal visits and births) | 5,319 complications identified by PHU staff/30,918 antenatal visits + 3,561 live and stillbirths = 15.4% . This decrease could be due to the fact more women are delivering in the PHUs instead of the community, which is driving the denominator higher. | 7,147 complications identified by PHU staff/27,759 antenatal visits + 3,486 live births + 61 still births = 22.83% While antenatal visits have reduced to 2010 levels (perhaps as a result of the scaling down of local PR campaigns to promote free MHC health care), the percentage of complications identified has increased (perhaps as a result of improved staff competencies) |
| P6b. Increased referral ratio from PHUs to hospital for obstructed labour, eclampsia and malpresentation (number of cause specific referrals to hospital/total live births in Kambia per 1,000 live births) | 65 referrals/6,116 live births= 0.0106= 11 referrals per 1,000 live births | 14 referrals /6,061 live births = 0.0071 = 2.3 referrals per 1,000 live births. This proportion has likely decreased as a result of improved care within the PHUs as the number of cases identified and managed with PHUs seems to have increased | 43 referrals/5,500 live births = 0.00781 = 7.8 referrals per 1,000 live births. |
| P6c. Increased rate of deliveries using ventouse (vacuum) extraction in PHUs and hospital (Number of Vx births/number of total births) | 0.30%* *No equipment in PHUs prior to October 2010- baseline from hospital only | CHO log books were not kept throughout 2011; Hospital data indicates at least 27 births were assisted by ventouse extraction | CHO logbooks were not kept throughout 2011 or 2012. Hospital data indicates there 21 births were assisted by ventouse extraction in 2012 |
| P6d. Increased rate of Misoprostol use among women presenting to PHUs with complications in late pregnancy | Baseline 0%* *Drug not available prior to October 2010 Requires CHO log book | CHO log books have not been kept up throughout 2011. The hospital maternity ward register does seem to record misoprostol use for in-patients, but it is not possible to know if the recorded amount represents all of the patients who were administered misoprostol. | CHO log books have not been kept up throughout 2012. |
| P6e. Decreased rate of caesarean sections for ruptured uteruses and still births (in-hospital) | Need to establish baseline with updated Theatre Log | No ruptured uteruses or still births were recorded in the theatre log | No ruptured uteruses recorded in the theatre log book, but record keeping in the theatre is erratic |
| Outcome Indicator | | | |
| O1. Reduction in maternal case fatality rate (CFR) among women delivering or seeking care in the PHUs | PHU Maternal case fatality rate* (excluding hospital) = 0.56% PHU Maternal case fatality rate in early pregnancy (includes malaria) = 0.51% PHU Maternal case fatality rate in late pregnancy = 0.51% | PHU Maternal case fatality rate (excluding hospital) = 0.0011% This represents a significant decrease and reduction in maternal case fatalities within the PHUs. | PHU Maternal case fatality rate (excluding hospital) = 0.1359% (2 deaths/1,482 obstetric complications during late pregnancy) |
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| O1. Reduction in still-birth ratio in PHUs | 0.0151 = 15 still births per 1,000 live births | 34 still births/3,260 live births 0.0104 = 10.4 still births per 1,000 live births | 61 still births/3,486 live births at PHU (excluding community births) = 17.5 still births per 1,000 live births |
| O2. Reduction in maternal case fatality (CFR) among women admitted to the hospital with obstetric complications | 0.0411 = 4.11% | Decrease to 20 maternal deaths/858 women admitted with complications = 0.023 = 2.3% | Decrease to 5 maternal deaths/668 women admitted with complications = 0.75% |
| O3. Reduction in still-birth ratio at the hospital | 0.1638 = 164 still births per 1,000 live births | 0.112 = 112 still births per 1,000 live births | 0.0449 = 44.94 still births per 1,000 live births (20 still births/445 live births) |
| O4. 20% relative difference (decrease) in maternal mortality ratio (MMR) between Kambia district and comparator district (Port Loko District Sierra Leone) at the end of the three year period | Kambia baseline MMR for January to July 2010 = 0.00981= 981 maternal deaths per 100,000 live births | Unable to obtain Port Loko data as per MoHS Kambia MMR for 2011= 0.0064 = 643.5 maternal deaths per 100,000 live births; This significant reduction in the District MMR reflects a decrease in the hospital MMR from 2570 deaths per 100,000 live births to 2300 deaths per 100,000 live births and more dramatically a decrease in the PHU MMR from 837 deaths per 100,000 live births to 184 deaths per 100,000 live births | Unable to obtain Port Loko data as per MoHS Kambia MMR for 2012 = 0.0020 = 201.85 maternal deaths per 1000,000 live births Decrease in hospital MMR to 1123.6 Decrease in PHU MMR to 57.37 |
| Secondary Outcome Indicators | | | |
| S1. Increase in the proportion of births assisted by a skilled attendant (Doctor, Midwife, CHO, SECHN or MCHA) at either PHUs or the hospital (not in the community) = (total number of births assisted by skilled attendant in PHU or hospital/number of total births in PHUs, hospitals and community) | PHU and Hospital births assisted by skilled attendant (does not include TBA deliveries in PHUs) = 2,991 (47.9% of all deliveries [n=6,245] in Kambia between January-July 2010 Community births = 37.6% of all births (still & live births in Kambia) between January-July 2010 | PHU and Hospital births assisted by skilled attendant (does not include TBA deliveries in PHUs) = 3161 (59.9% of all deliveries [n=5,717] in Kambia between Jan-July 2011 The proportion of births in the community relative to total births in the District did not significantly change between 2010 & 2011. For 2011 37.3% (2323/6228) of all births (still & live births in Kambia) were in the community | PHU and Hospital births assisted by skilled attendant (doesn't include TBA deliveries in PHUs) = 3,695 (62.05% of all deliveries [n=5,954]) in Kambia between Jan-July 2012. District data indicates that 35.7% of births took place in the community by TBAs |
| S2. Increase in the proportion of all staff who received training that are still in post in Kambia at the end of year three | N/A | N/A | N/A |